



REPLY TO OFFICE ACTION OF APPLICATION 10/669,407

EXAMINER: Stephen Avila

APPLICANT: Eric Vaughn Bleicken

ART UNIT: 3617

DATE OF OFFICE ACTION: June 15, 2004

TITLE OF INVENTION: Bow-facing Rowing System

REMARKS

Pursuant to the office action claim 1 was rejected under 35 U.S.C. 103(a) as being unpatentable over duPont (4,943,250) in view of duPont (4,867,719). It was said, "A forward facing device is disclosed by duPont (4,943,250) with auto-feathering and manual fixing." We disagree with the characterization of duPont '250 patent having "auto-feathering." In the duPont '250 patent has an oar with a vertically mounted hydrofoil at the end of the oar. A hydrofoil is used instead of a blade and is mounted vertically. Throughout the power stroke, the hydrofoil maintains a substantially constant angle to the longitudinal axis of the boat. Also, the hydrofoil itself maintains a 90-degree angle with the water, as opposed to being parallel, as when feathering. The hydrofoil is vertical and 90 degrees with the surface of the water, whereas feathering means horizontal and on a plane parallel to the surface of the water.

Neither the '250 patent, nor the '719 patent have feathering oars. According to <http://www.fact-index.com/r/ro/rowing.html> the term "feather means" means "parallel to the water."<sup>[1]</sup> According to the Random House CollegeDictionary (revised edition) p. 483 "feather" means "to turn an oar after a stroke so that the blade becomes nearly horizontal, and hold it thus as it is moved back into position for the next stroke. The On-Line version of the Merriam Webster Dictionary states that feather means "2 a : to turn (an oar blade) almost horizontal when lifting from the water at the end of a stroke to reduce air resistance." This is how experienced rowers and our application uses the term "feather." Nowhere in the duPont '250 patent is feathering disclosed. Nor is there "manual fixing," which means to lock the blade in the power position for maneuvering.

Now to "auto-feather," as was used in claim 1, unlike a regular row boat where the rower must rotate the shaft of the oar and make a conscious effort to feather, with auto-feathering the blades of the oar *automatically* feather without requiring a turn of the handgrip. I.e., during the return stroke simply by pushing forward on the oars the spring loaded blades return to the horizontal position so that they are parallel to the surface of the water to minimize wind resistance. Optimally, feathering should be done in such a way so as to skim the surface in order to provide stability to a fast hull design.

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- <sup>[1]</sup> The complete sentence reads, "The stroke begins with the oar out of the water with the blade feathered, or in other words parallel to the water." It also defines feathering as "Feather -- To turn the oar so that its blade is parallel with the water (opposite of 'square')." "

Also, in claim 1, element iii, the element “a fixed seat and foot operated outrigger on which said oar articulates” is recited. Neither the duPont ‘250 nor the ‘719 patent discloses a “fixed seat and foot operated outrigger on which said oar articulates” in which the outriggers move in the opposite direction as the feet *ergo*, even assuming, *arguendo*, that it would have been obvious to combine the two references, which is not admitted, all of the elements of the claimed invention are not recited. When one or more of the elements of the claimed invention are not recited in the prior art references in at least one of the references cited in a 35 U.S.C. §103 rejection, the rejection is not valid, for at the very least, all the references must disclose *all* the elements. As stated in MPEP 706.02(j) “[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations.”

The claim also mentions “a means to manually fix said oars in the vertical position for maneuver strokes.” A maneuver stroke is a turning stroke or a reverse stroke (rowing backwards). First, the term implies auto-feathering and the “means to manually fix said oars in the vertical position” is a mechanism to turn off the auto-feathering. It is a turnoff mechanism of sorts, which is nonsensical without auto-feathering. Second, the “means to manually fix said oars in the vertical position for maneuver strokes” is a dogging mechanism, which is not disclosed in either the duPont ‘250 or ‘719 patent.

It should be noted that according to MPEP 2146, “known disadvantages in old devices which would naturally discourage search for new inventions may be taken into account in determining obviousness.” Because the duPont ‘719 patent is unable to feather and thus skim the surface for stability, pontoons have had to be added to the boat to keep it upright. This extremely awkward and clumsy arrangement would deter someone from combining with other patents to make the disclosed invention. It would be slow, too massive for convenient transport. The pontoons also slide back and forth in the water in the ‘719 patent as the outriggers are driven by the feet, causing unnecessary turbulence and drag. Also, this imposes an awkward motion wherein the spatial relationship of the pontoons with the hull is not constant but is constantly in flux, with the pontoons traveling forward and back from stern to bow. A person of ordinary skill in the art would not, knowing the deficiencies of the ‘719 patent (which is stern facing), seek to improve on it so to create a bow-facing rowboat.

As stated MPEP 706.02, there must be *a reasonable expectation of success* when combining the references to defeat an application under 35 USC §103. The ‘250 discloses yet another system without *any* means for feathering, let alone auto-feathering. There is no reasonable expectation of success in making a forward (bow) facing rowboat that is not unduly wide (and therefore slow) without feathering. In order to return to a power stroke in the ‘250 patent you must take the hydrofoils completely out of the water without skimming which causes an unstable condition for a fast hull, just as was the case in the ‘719 patent.

Apart from the missing elements of the claim, combining the ‘719 patent with the ‘250 patent, given the unstable designs, would not produce the reasonable expectation of success needed to establish a *prima facie* case of obviousness. MPEP 706.02(j).